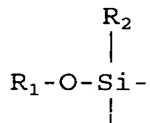


ABSTRACT OF THE INVENTION

Silicon compounds useful as coating reactants for the chemical vapor deposition of silicon oxide are disclosed, along with compounds useful as accelerants to increase the deposition rate of silicon oxide. The silicon-containing precursor comprises the structural formula



wherein R_1 is an alkyl, alkenyl, alkynyl or aryl radical which may be substituted, and R_2 is a functional group which increases the reactivity of the silicon compound by withdrawing electron density away from the silicon atom, such as hydrogen, halogen, alkenyl, alkynyl, halogenated alkyl and perhalogenated alkyl radicals. The accelerant is a compound selected to take advantage of the partial positive charge on the silicon atom. Such accelerant compounds include Lewis acids and bases; water; ozone; trivalent compounds of nitrogen, boron and phosphorus; tetravalent compounds of sulfur and selenium; pentavalent compounds of phosphorus and a variety of metal compounds. Also disclosed are compositions including an additional metal-containing coating precursor, such as an organotin compound, to deposit another metal oxide along with silicon oxide.

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